Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A frame synchronization method using an optimal pilot pattern, comprising the steps of:

receiving code sequences with the slot length of $(2^{l}+1)$ for a radio frame according to an arbitrary chip rate where l is an integer greater than or equal to 1;

arranging the received code sequences corresponding to the slot length for the radio frame and performing auto correlation according to a reception location of the code sequences, and simultaneously, arranging the code sequences corresponding to the slot length for the radio frame and performing cross correlation according to a reception location of the code sequences; and

observing the correlation results, to detect frame synchronization, wherein the step of performing correlation comprises the substeps of:

performing a first cross correlation between a first code sequence and a second code sequence among the received code sequences according to the reception location, and simultaneously, performing a second cross correlation between the second code sequence and the first code sequence which is shifted by a predetermined bit length.

2. (Original) The method as claimed in claim 1, further comprising the step of combining at least one of the correlation result and adding up it so that a cross correlation value is obtained at the point of time of delay other than the point of time of delay at which the frame synchronization is detected, after the step of performing correlation.

3. (Canceled)

4. (Currently Amended) The method as claimed in claim ~~3~~1, wherein the result from the first cross correlation has the same characteristic as that from the second cross correlation.

5. (Currently Amended) The method as claimed in claim ~~3~~1, wherein the second code sequence is obtained by cyclic-shifting and inverting the first code sequence.

6. (Original) The method as claimed in claim 1, wherein the step of detecting frame synchronization is constructed in such a manner that the received code sequences are arranged corresponding to the slot length for the radio frame, and auto correlation results according to the reception location of the code sequences are individually observed to detect frame synchronization.

7. (Original) The method as claimed in claim 1, wherein the step of detecting frame synchronization is constructed in such a manner that the received code sequences are arranged corresponding to the slot length for the radio frame, and cross correlation results according to the reception location of the code sequences are individually observed to detect frame synchronization.

8. (Original) The method as claimed in claim 1, wherein the auto correlation result shows a maximum correlation value corresponding to the slot length for the radio frame at the point of time of delay '0' and shows a minimum correlation value at the point of time of delay other than the point of time of delay '0'.

9. (Currently Amended) ~~The~~ A method ~~as claimed in claim 1,~~comprising:

receiving code sequences with the slot length of (2*l*+1) for a radio frame according to an arbitrary chip rate where *l* is an integer greater than or equal to 1;

arranging the received code sequences corresponding to the slot length for the radio frame and performing auto correlation according to a reception location of the code sequences, and simultaneously, arranging the code sequences corresponding to the slot length for the radio frame and performing cross correlation according to a reception location of the code sequences; and

observing the correlation results, to detect frame synchronization,

wherein the result obtained by cross-correlating the first code sequence with the second code sequence among the received code sequences according to the reception location has the same characteristic as that of the result obtained by cyclic-shifting the first code sequence by one bit length and then cross-correlating it with the second code sequence.

10. (Original) The method as claimed in claim 9, wherein the results from the two correlation steps have values with different polarities and an identical magnitude when they are compared with an auto correlation value at the point of time when the first code sequence is cyclic-shifted by the bit length of (*l*+1).

11. (Original) The method as claimed in claim 9, wherein the sum of the results from the two correlation steps, when it is compared with an auto correlation value at the point of time when the first code sequence is cyclic-shifted by the bit length of (I+1), has a value twice the auto correlation value and a polarity different from the auto correlation value.

12. (Currently Amended) ~~The~~ A method ~~as claimed in claim 1~~ comprising:

receiving code sequences with the slot length of (2I+1) for a radio frame according to an arbitrary chip rate where I is an integer greater than or equal to 1;

arranging the received code sequences corresponding to the slot length for the radio frame and performing auto correlation, and simultaneously, arranging the code sequences corresponding to the slot length for the radio frame and performing cross correlation; and

observing the correlation results, to detect frame synchronization, wherein the code sequences with the slot length of (2I+1) are arranged so that the cross correlation result between adjacent code sequences becomes the minimum value at the point of time of delay '0'.

13. (Original) The method as claimed in claim 12, wherein the code sequences with the slot length of (2/+1) are arranged so that the auto correlation results for each code sequence becomes the minimum value at the point of time of delay other than the point of time of delay '0'.

14. (Canceled)

15. (Canceled)

16. (Canceled)

17. (Currently Amended) A device for generating pilot sequences for a communication system, comprising:

means for providing a first code sequence of "100011110101100"; and

means for providing a second code sequence of "101001101110000", wherein the first and second code sequences allow at least one of a radio frame synchronization ~~and~~ or a channel estimation.

18. (Currently Amended) A device for generating pilot sequences for a communication system, comprising:

means for providing a first code sequence of "110001001101011"; and

means for providing a second code sequence of "001010000111011", wherein the first and second code sequences allow at least one of a radio frame synchronization ~~and~~ or a channel estimation.

19. (Canceled)

20. (Canceled)